



1

SEQUENCE LISTING

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LEE, BAI-YU

<120> ABUNDANT EXTRACELLULAR PRODUCTS AND METHODS FOR THEIR PRODUCTION
AND USE

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<140> 10/695,155

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<151> 1996-03-23

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<151> 1995-12-06

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<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 77

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<212> PRT

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<400> 78

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<400> 83
 Asn Phe Val Arg Ser Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn
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<400> 84
 Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly Gly His
 1 5 10 15

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<400> 85
 Gln Asp Ala Tyr Asn Ala Ala Gly Gly His Asn Ala Val Phe Asn
 1 5 10 15

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 Ala Ala Gly Gly His Asn Ala Val Phe Asn Phe Pro Pro Asn Gly
 1 5 10 15

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<400> 87
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<400> 88
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 1 5 10 15

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<400> 89

Thr His Ser Trp Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys
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<211> 15

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<213> Mycobacterium tuberculosis

<400> 90

Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser
 1 5 10 15

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<212> PRT

<213> Mycobacterium tuberculosis

<400> 91

Leu Asn Ala Met Lys Gly Asp Leu Gln Ser Ser Leu Gly Ala Gly
 1 5 10 15

<210> 92

<211> 480

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<221> CDS

<222> (1)..(480)

<400> 92

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 1 5 10 15

gcg gcc atc gcg acc ttt gcg gca ccg gtc gcg ttg gct gcc tat ccc 96
 Ala Ala Ile Ala Thr Phe Ala Ala Pro Val Ala Leu Ala Ala Tyr Pro
 20 25 30

atc acc gaa aaa ctt ggc agt gag cta acg atg acc gac acc gtt ggc 144
 Ile Thr Glu Lys Leu Gly Ser Glu Leu Thr Met Thr Asp Thr Val Gly
 35 40 45

caa gtc gtg ctc ggc tgg aag gtc agt gat ctc aaa tcc agc acg gca 192
 Gln Val Val Leu Gly Trp Lys Val Ser Asp Leu Lys Ser Ser Thr Ala
 50 55 60

gtc atc ccc ggc tat ccg gtg gcc ggc cag gtc tgg gag gcc act gcc	240
Val Ile Pro Gly Tyr Pro Val Ala Gly Gln Val Trp Glu Ala Thr Ala	
65 70 75 80	
acg gtc aat gcg att cgc ggc agc gtc acg ccc gcg gtc tcg cag ttc	288
Thr Val Asn Ala Ile Arg Gly Ser Val Thr Pro Ala Val Ser Gln Phe	
85 90 95	
aat gcc cgc acc gcc gac ggc atc aac tac cgg gtg ctg tgg caa gcc	336
Asn Ala Arg Thr Ala Asp Gly Ile Asn Tyr Arg Val Leu Trp Gln Ala	
100 105 110	
gcg ggc ccc gac acc att agc gga gcc act atc ccc caa ggc gaa caa	384
Ala Gly Pro Asp Thr Ile Ser Gly Ala Thr Ile Pro Gln Gly Glu Gln	
115 120 125	
tcg acc ggc aaa atc tac ttc gat gtc acc ggc cca tcg cca acc atc	432
Ser Thr Gly Lys Ile Tyr Phe Asp Val Thr Gly Pro Ser Pro Thr Ile	
130 135 140	
gtc gcg atg aac aac ggc atg gag gat ctg ctg att tgg gag ccg tag	480
Val Ala Met Asn Asn Gly Met Glu Asp Leu Leu Ile Trp Glu Pro	
145 150 155 160	

<210> 93

<211> 1437

<212> DNA

<213> Mycobacterium tuberculosis

<220>

<221> CDS

<222> (1)..(1434)

<400> 93

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1 5 10 15	
aag gtc gaa tat gtc gac gtc cgg ttc tgt gac ctg cct ggc atc atg	96
Lys Val Glu Tyr Val Asp Val Arg Phe Cys Asp Leu Pro Gly Ile Met	
20 25 30	
cag cac ttc acg att ccg gct tcg gcc ttt gac aag agc gtg ttt gac	144
Gln His Phe Thr Ile Pro Ala Ser Ala Phe Asp Lys Ser Val Phe Asp	
35 40 45	
gac ggc ttg gcc ttt gac ggc tcg tcg att cgc ggg ttc cag tcg atc	192
Asp Gly Leu Ala Phe Asp Gly Ser Ser Ile Arg Gly Phe Gln Ser Ile	
50 55 60	

cac gaa tcc gac atg ttg ctt ctt ccc gat ccc gag acg gcg cgc atc	240
His Glu Ser Asp Met Leu Leu Leu Pro Asp Pro Glu Thr Ala Arg Ile	
65 70 75 80	
gac ccg ttc cgc gcg gcc aag acg ctg aat atc aac ttc ttt gtg cac	288
Asp Pro Phe Arg Ala Ala Lys Thr Leu Asn Ile Asn Phe Phe Val His	
85 90 95	
gac ccg ttc acc ctg gag ccg tac tcc cgc gac ccg cgc aac atc gcc	336
Asp Pro Phe Thr Leu Glu Pro Tyr Ser Arg Asp Pro Arg Asn Ile Ala	
100 105 110	
cgc aag gcc gag aac tac ctg atc agc act ggc atc gcc gac acc gca	384
Arg Lys Ala Glu Asn Tyr Leu Ile Ser Thr Gly Ile Ala Asp Thr Ala	
115 120 125	
tac ttc ggc gcc gag gcc gag ttc tac att ttc gat tgc gtg agc ttc	432
Tyr Phe Gly Ala Glu Ala Glu Phe Tyr Ile Phe Asp Ser Val Ser Phe	
130 135 140	
gac tgc cgc gcc aac ggc tcc ttc tac gag gtg gac gcc atc tgc ggg	480
Asp Ser Arg Ala Asn Gly Ser Phe Tyr Glu Val Asp Ala Ile Ser Gly	
145 150 155 160	
tgg tgg aac acc ggc gcg gcg acc gag gcc gac ggc agt ccc aac cgg	528
Trp Trp Asn Thr Gly Ala Ala Thr Glu Ala Asp Gly Ser Pro Asn Arg	
165 170 175	
ggc tac aag gtc cgc cac aag ggc ggg tat ttc cca gtg gcc ccc aac	576
Gly Tyr Lys Val Arg His Lys Gly Gly Tyr Phe Pro Val Ala Pro Asn	
180 185 190	
gac caa tac gtc gac ctg cgc gac aag atg ctg acc aac ctg atc aac	624
Asp Gln Tyr Val Asp Leu Arg Asp Lys Met Leu Thr Asn Leu Ile Asn	
195 200 205	
tcc ggc ttc atc ctg gag aag ggc cac cac gag gtg ggc agc ggc gga	672
Ser Gly Phe Ile Leu Glu Lys Gly His His Glu Val Gly Ser Gly Gly	
210 215 220	
cag gcc gag atc aac tac cag ttc aat tgc ctg ctg cac gcc gcc gac	720
Gln Ala Glu Ile Asn Tyr Gln Phe Asn Ser Leu Leu His Ala Ala Asp	
225 230 235 240	
gac atg cag ttg tac aag tac atc atc aag aac acc gcc tgg cag aac	768
Asp Met Gln Leu Tyr Lys Tyr Ile Ile Lys Asn Thr Ala Trp Gln Asn	
245 250 255	
ggc aaa acg gtc acg ttc atg ccc aag ccg ctg ttc ggc gac aac ggg	816
Gly Lys Thr Val Thr Phe Met Pro Lys Pro Leu Phe Gly Asp Asn Gly	
260 265 270	

tcc ggc atg cac tgt cat cag tcg ctg tgg aag gac ggg gcc ccg ctg	864
Ser Gly Met His Cys His Gln Ser Leu Trp Lys Asp Gly Ala Pro Leu	
275 280 285	
atg tac gac gag acg ggt tat gcc ggt ctg tcg gac acg gcc cgt cat	912
Met Tyr Asp Glu Thr Gly Tyr Ala Gly Leu Ser Asp Thr Ala Arg His	
290 295 300	
tac atc ggc ggc ctg tta cac cac gcg ccg tcg ctg ctg gcc ttc acc	960
Tyr Ile Gly Gly Leu Leu His His Ala Pro Ser Leu Leu Ala Phe Thr	
305 310 315 320	
aac ccg acg gtg aac tcc tac aag cgg ctg gtt ccc ggt tac gag gcc	1008
Asn Pro Thr Val Asn Ser Tyr Lys Arg Leu Val Pro Gly Tyr Glu Ala	
325 330 335	
ccg atc aac ctg gtc tat agc cag cgc aac cgg tcg gca tgc gtg cgc	1056
Pro Ile Asn Leu Val Tyr Ser Gln Arg Asn Arg Ser Ala Cys Val Arg	
340 345 350	
atc ccg atc acc ggc agc aac ccg aag gcc aag cgg ctg gag ttc cga	1104
Ile Pro Ile Thr Gly Ser Asn Pro Lys Ala Lys Arg Leu Glu Phe Arg	
355 360 365	
agc ccc gac tcg tcg ggc aac ccg tat ctg gcg ttc tcg gcc atg ctg	1152
Ser Pro Asp Ser Ser Gly Asn Pro Tyr Leu Ala Phe Ser Ala Met Leu	
370 375 380	
atg gca ggc ctg gac ggt atc aag aac aag atc gag ccg cag gcg ccc	1200
Met Ala Gly Leu Asp Gly Ile Lys Asn Lys Ile Glu Pro Gln Ala Pro	
385 390 395 400	
gtc gac aag gat ctc tac gag ctg ccg ccg gaa gag gcc gcg agt atc	1248
Val Asp Lys Asp Leu Tyr Glu Leu Pro Pro Glu Glu Ala Ala Ser Ile	
405 410 415	
ccg cag act ccg acc cag ctg tca gat gtg atc gac cgt ctc gag gcc	1296
Pro Gln Thr Pro Thr Gln Leu Ser Asp Val Ile Asp Arg Leu Glu Ala	
420 425 430	
gac cac gaa tac ctc acc gaa gga ggg gtg ttc aca aac gac ctg atc	1344
Asp His Glu Tyr Leu Thr Glu Gly Gly Val Phe Thr Asn Asp Leu Ile	
435 440 445	
gag acg tgg atc agt ttc aag cgc gaa aac gag atc gag ccg gtc aac	1392
Glu Thr Trp Ile Ser Phe Lys Arg Glu Asn Glu Ile Glu Pro Val Asn	
450 455 460	
atc cgg ccg cat ccc tac gaa ttc gcg ctg tac tac gac gtt taa	1437
Ile Arg Pro His Pro Tyr Glu Phe Ala Leu Tyr Tyr Asp Val	
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 <212> DNA
 <213> Mycobacterium tuberculosis

<220>
 <221> CDS
 <222> (1)..(687)

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tgt tcg ggt gtg gcc acg gcc gcg ccc aag acc tac tgc gag gag ttg 96
 Cys Ser Gly Val Ala Thr Ala Ala Pro Lys Thr Tyr Cys Glu Glu Leu
 20 25 30

aaa ggc acc gat acc ggc cag gcg tgc cag att caa atg tcc gac ccg 144
 Lys Gly Thr Asp Thr Gly Gln Ala Cys Gln Ile Gln Met Ser Asp Pro
 35 40 45

gcc tac aac atc aac atc agc ctg ccc agt tac tac ccc gac cag aag 192
 Ala Tyr Asn Ile Asn Ile Ser Leu Pro Ser Tyr Tyr Pro Asp Gln Lys
 50 55 60

tcg ctg gaa aat tac atc gcc cag acg cgc gac aag ttc ctc agc gcg 240
 Ser Leu Glu Asn Tyr Ile Ala Gln Thr Arg Asp Lys Phe Leu Ser Ala
 65 70 75 80

gcc aca tcg tcc act cca cgc gaa gcc ccc tac gaa ttg aat atc acc 288
 Ala Thr Ser Ser Thr Pro Arg Glu Ala Pro Tyr Glu Leu Asn Ile Thr
 85 90 95

tcg gcc aca tac cag tcc gcg ata ccg ccg cgt ggt acg cag gcc gtg 336
 Ser Ala Thr Tyr Gln Ser Ala Ile Pro Pro Arg Gly Thr Gln Ala Val
 100 105 110

gtg ctc aag gtc tac cag aac gcc ggc ggc acg cac cca acg acc acg 384
 Val Leu Lys Val Tyr Gln Asn Ala Gly Gly Thr His Pro Thr Thr Thr
 115 120 125

tac aag gcc ttc gat tgg gac cag gcc tat cgc aag cca atc acc tat 432
 Tyr Lys Ala Phe Asp Trp Asp Gln Ala Tyr Arg Lys Pro Ile Thr Tyr
 130 135 140

gac acg ctg tgg cag gct gac acc gat ccg ctg cca gtc gtc ttc ccc 480
 Asp Thr Leu Trp Gln Ala Asp Thr Asp Pro Leu Pro Val Val Phe Pro
 145 150 155 160

att gtg caa ggt gaa ctg agc aag cag acc gga caa cag gta tcg ata 528
 Ile Val Gln Gly Glu Leu Ser Lys Gln Thr Gly Gln Gln Val Ser Ile
 165 170 175

gcg ccg aat gcc ggc ttg gac ccg gtg aat tat cag aac ttc gca gtc 576
Ala Pro Asn Ala Gly Leu Asp Pro Val Asn Tyr Gln Asn Phe Ala Val
180 185 190

acg aac gac ggg gtg att ttc ttc ttc aac ccg ggg gag ttg ctg ccc 624
 Thr Asn Asp Gly Val Ile Phe Phe Phe Asn Pro Gly Glu Leu Leu Pro
 195 200 205

gaa gca gcc ggc cca acc cag gta ttg gtc cca cgt tcc gcg atc gac 672
Glu Ala Ala Gly Pro Thr Gln Val Leu Val Pro Arg Ser Ala Ile Asp
210 215 220

tcg atg ctg gcc tag	687
Ser Met Leu Ala	
225	

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<212> DNA
<213> Mycobacterium tuberculosis
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<220>
<221> CDS
<222> (1) .. (900)
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1 5 10 15

tca	ttc	ggg	ttg	ggc	ggt	gtc	gcg	gta	gcc	gcg	gaa	ccc	acc	gcc	aag	96
Ser	Phe	Gly	Leu	Gly	Gly	Val	Ala	Val	Ala	Ala	Glu	Pro	Thr	Ala	Lys	
			20					25					30			

gcc gcc cca tac gag aac ctg atg gtg ccg tcg ccc tcg atg ggc cgg 144
Ala Ala Pro Tyr Glu Asn Leu Met Val Pro Ser Pro Ser Met Gly Arg
35 40 45

gac atc ccg gtg gcc ttc cta gcc ggt ggg ccg cac gcg gtg tat ctg 192
Asp Ile Pro Val Ala Phe Leu Ala Gly Gly Pro His Ala Val Tyr Leu
50 55 60

ctg gac gcc ttc aac gcc ggc ccg gat gtc agt aac tgg gtc acc gcg 240
Leu Asp Ala Phe Asn Ala Gly Pro Asp Val Ser Asn Trp Val Thr Ala
65 70 75 80

ggt aac gcg atg aac acg ttg gcg ggc aag ggg att tcg gtg gtg gca 288
Gly Asn Ala Met Asn Thr Leu Ala Gly Lys Gly Ile Ser Val Val Ala
85 90 95

ccg gcc ggt ggt gcg tac agc atg tac acc aac tgg gag cag gat ggc	336
Pro Ala Gly Gly Ala Tyr Ser Met Tyr Thr Asn Trp Glu Gln Asp Gly	
100 105 110	
agc aag cag tgg gac acc ttc ttg tcc gct gag ctg ccc gac tgg ctg	384
Ser Lys Gln Trp Asp Thr Phe Leu Ser Ala Glu Leu Pro Asp Trp Leu	
115 120 125	
gcc gct aac cgg ggc ttg gcc ccc ggt ggc cat gcg gcc gtt ggc gcc	432
Ala Ala Asn Arg Gly Leu Ala Pro Gly Gly His Ala Ala Val Gly Ala	
130 135 140	
gct cag ggc ggt tac ggg gcg atg gcg ctg gcg gcc ttc cac ccc gac	480
Ala Gln Gly Gly Tyr Gly Ala Met Ala Leu Ala Ala Phe His Pro Asp	
145 150 155 160	
cgc ttc ggc ttc gct ggc tcg atg tcg ggc ttt ttg tac ccg tcg aac	528
Arg Phe Gly Phe Ala Gly Ser Met Ser Gly Phe Leu Tyr Pro Ser Asn	
165 170 175	
acc acc acc aac ggt gcg atc gcg gcg ggc atg cag caa ttc ggc ggt	576
Thr Thr Thr Asn Gly Ala Ile Ala Ala Gly Met Gln Gln Phe Gly Gly	
180 185 190	
gtg gac acc aac gga atg tgg gga gca cca cag ctg ggt cgg tgg aag	624
Val Asp Thr Asn Gly Met Trp Gly Ala Pro Gln Leu Gly Arg Trp Lys	
195 200 205	
tgg cac gac ccg tgg gtg cat gcc agc ctg ctg gcg caa aac aac acc	672
Trp His Asp Pro Trp Val His Ala Ser Leu Leu Ala Gln Asn Asn Thr	
210 215 220	
cgg gtg tgg gtg tgg agc ccg acc aac ccg gga gcc agc gat ccc gcc	720
Arg Val Trp Val Trp Ser Pro Thr Asn Pro Gly Ala Ser Asp Pro Ala	
225 230 235 240	
gcc atg atc ggc caa gcc gcc gag gcg atg ggt aac agc cgc atg ttc	768
Ala Met Ile Gly Gln Ala Ala Glu Ala Met Gly Asn Ser Arg Met Phe	
245 250 255	
tac aac cag tat cgc agc gtc ggc ggg cac aac gga cac ttc gac ttc	816
Tyr Asn Gln Tyr Arg Ser Val Gly Gly His Asn Gly His Phe Asp Phe	
260 265 270	
cca gcc agc ggt gac aac ggc tgg ggc tcg tgg gcg ccc cag ctg ggc	864
Pro Ala Ser Gly Asp Asn Gly Trp Gly Ser Trp Ala Pro Gln Leu Gly	
275 280 285	
gct atg tcg ggc gat atc gtc ggt gcg atc cgc taa	900
Ala Met Ser Gly Asp Ile Val Gly Ala Ile Arg	
290 295 300	

<210> 96
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 96
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 1 5 10 15

<210> 97
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 <213> Mycobacterium tuberculosis

<400> 97
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 1 5 10 15

<210> 98
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 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 98
 Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val Gln
 1 5 10 15

<210> 99
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 99
 Pro Ser Met Gly Arg Asp Ile Lys Val Gln Phe Gln Ser Gly Gly
 1 5 10 15

<210> 100
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 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 100
 Asp Ile Lys Val Gln Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala
 1 5 10 15

<210> 101
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 101

Phe	Gln	Ser	Gly	Gly	Ala	Asn	Ser	Pro	Ala	Leu	Tyr	Leu	Leu	Asp
1				5					10					15

<210> 102

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 102

Ala	Asn	Ser	Pro	Ala	Leu	Tyr	Leu	Leu	Asp	Gly	Leu	Arg	Ala	Gln
1				5					10					15

<210> 103

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 103

Leu	Tyr	Leu	Leu	Asp	Gly	Leu	Arg	Ala	Gln	Asp	Asp	Phe	Ser	Gly
1				5					10					15

<210> 104

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 104

Gly	Leu	Arg	Ala	Gln	Asp	Asp	Phe	Ser	Gly	Trp	Asp	Ile	Asn	Thr
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<210> 105

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 105

Asp	Asp	Phe	Ser	Gly	Trp	Asp	Ile	Asn	Thr	Pro	Ala	Phe	Glu	Trp
1				5					10					15

<210> 106

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 106

Trp	Asp	Ile	Asn	Thr	Pro	Ala	Phe	Glu	Trp	Tyr	Asp	Gln	Ser	Gly
1				5					10					15

<210> 107
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 107
 Pro Ala Phe Glu Trp Tyr Asp Gln Ser Gly Leu Ser Val Val Met
 1 5 10 15

<210> 108
 <211> 16
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 108
 Tyr Asp Gln Ser Gly Leu Ser Val Val Met Pro Val Val Gly Gly Gln
 1 5 10 15

<210> 109
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 109
 Leu Ser Val Val Met Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser
 1 5 10 15

<210> 110
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 110
 Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro
 1 5 10 15

<210> 111
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 111
 Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro Ala Cys Gly Lys Ala
 1 5 10 15

<210> 112
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 112
 Asp Trp Tyr Gln Pro Ala Cys Gly Lys Ala Gly Cys Gln Thr Tyr
 1 5 10 15

<210> 113
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 113
 Ala Cys Gly Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe
 1 5 10 15

<210> 114
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 <213> Mycobacterium tuberculosis

<400> 114
 Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu
 1 5 10 15

<210> 115
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 115
 Lys Trp Glu Thr Phe Leu Thr Ser Glu Leu Pro Gly Trp Leu Gln
 1 5 10 15

<210> 116
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 116
 Leu Thr Ser Glu Leu Pro Gly Trp Leu Gln Ala Asn Arg His Val
 1 5 10 15

<210> 117
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 117

Pro	Gly	Trp	Leu	Gln	Ala	Asn	Arg	His	Val	Lys	Pro	Thr	Gly	Ser
1				5					10					15

<210> 118

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 118

Ala	Asn	Arg	His	Val	Lys	Pro	Thr	Gly	Ser	Ala	Val	Val	Gly	Leu
1				5					10					15

<210> 119

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 119

Lys	Pro	Thr	Gly	Ser	Ala	Val	Val	Gly	Leu	Ser	Met	Ala	Ala	Ser
1				5					10					15

<210> 120

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 120

Ala	Val	Val	Gly	Leu	Ser	Met	Ala	Ala	Ser	Ser	Ala	Leu	Thr	Leu
1				5					10					15

<210> 121

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 121

Ser	Met	Ala	Ala	Ser	Ser	Ala	Leu	Thr	Leu	Ala	Ile	Tyr	His	Pro
1				5					10					15

<210> 122

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 122

Ser	Ala	Leu	Thr	Leu	Ala	Ile	Tyr	His	Pro	Gln	Gln	Phe	Val	Tyr
1				5					10					15

<210> 123
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 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 123
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 1 5 10 15

<210> 124
 <211> 15
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<400> 124
 Gln Gln Phe Val Tyr Ala Gly Ala Met Ser Gly Leu Leu Asp Pro
 1 5 10 15

<210> 125
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 125
 Ala Gly Ala Met Ser Gly Leu Leu Asp Pro Ser Gln Ala Met Gly
 1 5 10 15

<210> 126
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 126
 Gly Leu Leu Asp Pro Ser Gln Ala Met Gly Pro Thr Leu Ile Gly
 1 5 10 15

<210> 127
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 127
 Ser Gln Ala Met Gly Pro Thr Leu Ile Gly Leu Ala Met Gly Asp
 1 5 10 15

<210> 128
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 128
 Pro Thr Leu Ile Gly Leu Ala Met Gly Asp Ala Gly Gly Tyr Lys
 1 5 10 15

<210> 129
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 129
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 1 5 10 15

<210> 130
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 130
 Ala Gly Gly Tyr Lys Ala Ser Asp Met Trp Gly Pro Lys Glu Asp
 1 5 10 15

<210> 131
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 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 131
 Ala Ser Asp Met Trp Gly Pro Lys Glu Asp Pro Ala Trp Gln Arg
 1 5 10 15

<210> 132
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 132
 Gly Pro Lys Glu Asp Pro Ala Trp Gln Arg Asn Asp Pro Leu Leu
 1 5 10 15

<210> 133
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 133

Pro	Ala	Trp	Gln	Arg	Asn	Asp	Pro	Leu	Leu	Asn	Val	Gly	Lys	Leu
1				5					10					15

<210> 134

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 134

Asn	Asp	Pro	Leu	Leu	Asn	Val	Gly	Lys	Leu	Ile	Ala	Asn	Asn	Thr
1				5					10					15

<210> 135

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 135

Asn	Val	Gly	Lys	Leu	Ile	Ala	Asn	Asn	Thr	Arg	Val	Trp	Val	Tyr
1				5					10					15

<210> 136

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 136

Ile	Ala	Asn	Asn	Thr	Arg	Val	Trp	Val	Tyr	Cys	Gly	Asn	Gly	Lys
1				5					10					15

<210> 137

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 137

Arg	Val	Trp	Val	Tyr	Cys	Gly	Asn	Gly	Lys	Pro	Ser	Asp	Leu	Gly
1				5					10					15

<210> 138

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 138

Cys	Gly	Asn	Gly	Lys	Pro	Ser	Asp	Leu	Gly	Gly	Asn	Asn	Leu	Pro
1				5					10					15

<210> 139
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 139
 Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro Ala Lys Phe Leu Glu
 1 5 10 15

<210> 140
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 140
 Gly Asn Asn Leu Pro Ala Lys Phe Leu Glu Gly Phe Val Arg Thr
 1 5 10 15

<210> 141
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 141
 Ala Lys Phe Leu Glu Gly Phe Val Arg Thr Ser Asn Ile Lys Phe
 1 5 10 15

<210> 142
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 142
 Gly Phe Val Arg Thr Ser Asn Ile Lys Phe Gln Asp Ala Tyr Asn
 1 5 10 15

<210> 143
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 143
 Ser Asn Ile Lys Phe Gln Asp Ala Tyr Asn Ala Gly Gly Gly His
 1 5 10 15

<210> 144
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 144
 Gln Asp Ala Tyr Asn Ala Gly Gly Gly His Asn Gly Val Phe Asp
 1 5 10 15

<210> 145
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 145
 Ala Gly Gly Gly His Asn Gly Val Phe Asp Phe Pro Asp Ser Gly
 1 5 10 15

<210> 146
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 146
 Asn Gly Val Phe Asp Phe Pro Asp Ser Gly Thr His Ser Trp Glu
 1 5 10 15

<210> 147
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 147
 Phe Pro Asp Ser Gly Thr His Ser Trp Glu Tyr Trp Gly Ala Gln
 1 5 10 15

<210> 148
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 148
 Thr His Ser Trp Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys
 1 5 10 15

<210> 149
 <211> 15
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 149

Tyr	Trp	Gly	Ala	Gln	Leu	Asn	Ala	Met	Lys	Pro	Asp	Leu	Gln	Arg
1				5					10					15

<210> 150

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 150

Leu	Asn	Ala	Met	Lys	Pro	Asp	Leu	Gln	Arg	Ala	Leu	Gly	Ala	Thr
1				5					10					15

<210> 151

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 151

Pro	Asp	Leu	Gln	Arg	Ala	Leu	Gly	Ala	Thr	Pro	Asn	Thr	Gly	Pro
1				5					10					15

<210> 152

<211> 15

<212> PRT

<213> Mycobacterium tuberculosis

<400> 152

Ala	Leu	Gly	Ala	Thr	Pro	Asn	Thr	Gly	Pro	Ala	Pro	Gln	Gly	Ala
1				5					10					15

<210> 153

<211> 18

<212> PRT

<213> Mycobacterium tuberculosis

<400> 153

Phe	Ser	Arg	Pro	Gly	Leu	Pro	Val	Glu	Tyr	Leu	Gln	Val	Pro	Ser	Pro
1				5					10					15	

Ser Met

<210> 154

<211> 16

<212> PRT

<213> Mycobacterium tuberculosis

<400> 154

Asp Ile Lys Val Gln Phe Gln Ser Gly Gly Ala Asn Ser Pro Ala Leu
 1 5 10 15

<210> 155

<211> 17

<212> PRT

<213> Mycobacterium tuberculosis

<400> 155

Pro Val Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Gln Pro Ala
 1 5 10 15

Cys

<210> 156

<211> 17

<212> PRT

<213> Mycobacterium tuberculosis

<400> 156

Ser Met Ala Ala Ser Ser Ala Leu Thr Leu Ala Ile Tyr His Pro Gln
 1 5 10 15

Gln

<210> 157

<211> 18

<212> PRT

<213> Mycobacterium tuberculosis

<400> 157

Pro Gln Gln Phe Val Tyr Ala Gly Ala Met Ser Gly Leu Leu Asp Pro
 1 5 10 15

Ser Gln

<210> 158

<211> 17

<212> PRT

<213> Mycobacterium tuberculosis

<400> 158

Cys Gly Asn Gly Lys Pro Ser Asp Leu Gly Gly Asn Asn Leu Pro Ala
 1 5 10 15

Lys

<210> 159
 <211> 16
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 159
 Phe Gln Asp Ala Tyr Asn Ala Gly Gly Gly His Asn Gly Val Phe Asp
 1 5 10 15

<210> 160
 <211> 14
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 160
 Pro Asp Leu Gln Arg Ala Leu Gly Ala Thr Pro Asn Thr Gly
 1 5 10

<210> 161
 <211> 325
 <212> PRT
 <213> Mycobacterium tuberculosis

<400> 161
 Met Thr Asp Val Ser Arg Lys Ile Arg Ala Trp Gly Arg Arg Leu Met
 1 5 10 15

Ile Gly Thr Ala Ala Ala Val Val Leu Pro Gly Leu Val Gly Leu Ala
 20 25 30

Gly Gly Ala Ala Thr Ala Gly Ala Phe Ser Arg Pro Gly Leu Pro Val
 35 40 45

Glu Tyr Leu Gln Val Pro Ser Pro Ser Met Gly Arg Asp Ile Lys Val
 50 55 60

Gln Phe Gln Ser Gly Gly Asn Asn Ser Pro Ala Val Tyr Leu Leu Asp
 65 70 75 80

Gly Leu Arg Ala Gln Asp Asp Tyr Asn Gly Trp Asp Ile Asn Thr Pro
 85 90 95

Ala Phe Glu Trp Tyr Tyr Gln Ser Gly Leu Ser Ile Val Met Pro Val
 100 105 110

Gly Gly Gln Ser Ser Phe Tyr Ser Asp Trp Tyr Ser Pro Ala Cys Gly
 115 120 125

Lys Ala Gly Cys Gln Thr Tyr Lys Trp Glu Thr Phe Leu Thr Ser Glu
 130 135 140
 Leu Pro Gln Trp Leu Ser Ala Asn Arg Ala Val Lys Pro Thr Gly Ser
 145 150 155 160
 Ala Ala Ile Gly Leu Ser Met Ala Gly Ser Ser Ala Met Ile Leu Ala
 165 170 175
 Ala Tyr His Pro Gln Gln Phe Ile Tyr Ala Gly Ser Leu Ser Ala Leu
 180 185 190
 Leu Asp Pro Ser Gln Gly Met Gly Pro Ser Leu Ile Gly Leu Ala Met
 195 200 205
 Gly Asp Ala Gly Gly Tyr Lys Ala Ala Asp Met Trp Gly Pro Ser Ser
 210 215 220
 Asp Pro Ala Trp Glu Arg Asn Asp Pro Thr Gln Gln Ile Pro Lys Leu
 225 230 235 240
 Val Ala Asn Asn Thr Arg Leu Trp Val Tyr Cys Gly Asn Gly Thr Pro
 245 250 255
 Asn Glu Leu Gly Gly Ala Asn Ile Pro Ala Glu Phe Leu Glu Asn Phe
 260 265 270
 Val Arg Ser Ser Asn Leu Lys Phe Gln Asp Ala Tyr Asn Ala Ala Gly
 275 280 285
 Gly His Asn Ala Val Phe Asn Phe Pro Pro Asn Gly Thr His Ser Trp
 290 295 300
 Glu Tyr Trp Gly Ala Gln Leu Asn Ala Met Lys Gly Asp Leu Gln Ser
 305 310 315 320
 Ser Leu Gly Ala Gly
 325

<210> 162

<211> 338

<212> PRT

<213> Mycobacterium tuberculosis

<400> 162

Met Gln Leu Val Asp Arg Val Arg Gly Ala Val Thr Gly Met Ser Arg
 1 5 10 15
 Arg Leu Val Val Gly Ala Val Gly Ala Ala Leu Val Ser Gly Leu Val
 20 25 30

Gly	Ala	Val	Gly	Gly	Thr	Ala	Thr	Ala	Gly	Ala	Phe	Ser	Arg	Pro	Gly	35	40	45
Leu	Pro	Val	Glu	Tyr	Leu	Gln	Val	Pro	Ser	Pro	Ser	Met	Gly	Arg	Asp	50	55	60
Ile	Lys	Val	Gln	Phe	Gln	Ser	Gly	Gly	Ala	Asn	Ser	Pro	Ala	Leu	Tyr	65	70	75
Leu	Leu	Asp	Gly	Leu	Arg	Ala	Gln	Asp	Asp	Phe	Ser	Gly	Trp	Asp	Ile	85	90	95
Asn	Thr	Pro	Ala	Phe	Glu	Trp	Tyr	Asp	Gln	Ser	Gly	Leu	Ser	Val	Val	100	105	110
Met	Pro	Val	Gly	Gly	Gln	Ser	Ser	Phe	Tyr	Ser	Asp	Trp	Tyr	Gln	Pro	115	120	125
Ala	Cys	Gly	Lys	Ala	Gly	Cys	Gln	Thr	Tyr	Lys	Trp	Glu	Thr	Phe	Leu	130	135	140
Thr	Ser	Glu	Leu	Pro	Gly	Trp	Leu	Gln	Ala	Asn	Arg	His	Val	Lys	Pro	145	150	155
Thr	Gly	Ser	Ala	Val	Val	Gly	Leu	Ser	Met	Ala	Ala	Ser	Ser	Ala	Leu	165	170	175
Thr	Leu	Ala	Ile	Tyr	His	Pro	Gln	Gln	Phe	Val	Tyr	Ala	Gly	Ala	Met	180	185	190
Ser	Gly	Leu	Leu	Asp	Pro	Ser	Gln	Ala	Met	Gly	Pro	Thr	Leu	Ile	Gly	195	200	205
Leu	Ala	Met	Gly	Asp	Ala	Gly	Gly	Tyr	Lys	Ala	Ser	Asp	Met	Trp	Gly	210	215	220
Pro	Lys	Glu	Asp	Pro	Ala	Trp	Gln	Arg	Asn	Asp	Pro	Leu	Leu	Asn	Val	225	230	235
Gly	Lys	Leu	Ile	Ala	Asn	Asn	Thr	Arg	Val	Trp	Val	Tyr	Cys	Gly	Asn	245	250	255
Gly	Lys	Pro	Ser	Asp	Leu	Gly	Gly	Asn	Asn	Leu	Pro	Ala	Lys	Phe	Leu	260	265	270
Glu	Gly	Phe	Val	Arg	Thr	Ser	Asn	Ile	Lys	Phe	Gln	Asp	Ala	Tyr	Asn	275	280	285
Ala	Gly	Gly	Gly	His	Asn	Gly	Val	Phe	Asp	Phe	Pro	Asp	Ser	Gly	Thr	290	295	300
His	Ser	Trp	Glu	Tyr	Trp	Gly	Ala	Gln	Leu	Asn	Ala	Met	Lys	Pro	Asp	305	310	315

Leu Gln Arg Ala Leu Gly Ala Thr Pro Asn Thr Gly Pro Ala Pro Gln
325 330 335

Gly Ala

<210> 163

<211> 159

<212> PRT

<213> Mycobacterium tuberculosis

<400> 163

Met Lys Leu Thr Thr Met Ile Lys Thr Ala Val Ala Val Val Ala Met
1 5 10 15

Ala Ala Ile Ala Thr Phe Ala Ala Pro Val Ala Leu Ala Ala Tyr Pro
20 25 30

Ile Thr Glu Lys Leu Gly Ser Glu Leu Thr Met Thr Asp Thr Val Gly
35 40 45

Gln Val Val Leu Gly Trp Lys Val Ser Asp Leu Lys Ser Ser Thr Ala
50 55 60

Val	Ile	Pro	Gly	Tyr	Pro	Val	Ala	Gly	Gln	Val	Trp	Glu	Ala	Thr	Ala
65					70					75					80

Thr Val Asn Ala Ile Arg Gly Ser Val Thr Pro Ala Val Ser Gln Phe
85 90 95

Asn Ala Arg Thr Ala Asp Gly Ile Asn Tyr Arg Val Leu Trp Gln Ala
100 105 110

Ala Gly Pro Asp Thr Ile Ser Gly Ala Thr Ile Pro Gln Gly Glu Gln
115 120 125

Ser Thr Gly Lys Ile Tyr Phe Asp Val Thr Gly Pro Ser Pro Thr Ile
130 135 140

Val Ala Met Asn Asn Gly Met Glu Asp Leu Leu Ile Trp Glu Pro
145 150 155

<210> 164

<211> 478

<212> PRT

<213> Mycobacterium tuberculosis

<400> 164

Val	Thr	Glu	Lys	Thr	Pro	Asp	Asp	Val	Phe	Lys	Leu	Ala	Lys	Asp	Glu
1				5				10						15	

Lys Val Glu Tyr Val Asp Val Arg Phe Cys Asp Leu Pro Gly Ile Met
 20 25 30
 Gln His Phe Thr Ile Pro Ala Ser Ala Phe Asp Lys Ser Val Phe Asp
 / 35 40 45
 Asp Gly Leu Ala Phe Asp Gly Ser Ser Ile Arg Gly Phe Gln Ser Ile
 50 55 60
 His Glu Ser Asp Met Leu Leu Leu Pro Asp Pro Glu Thr Ala Arg Ile
 65 70 \ 75 80
 Asp Pro Phe Arg Ala Ala Lys Thr Leu Asn Ile Asn Phe Phe Val His
 85 90 95
 Asp Pro Phe Thr Leu Glu Pro Tyr Ser Arg Asp Pro Arg Asn Ile Ala
 100 105 110
 Arg Lys Ala Glu Asn Tyr Leu Ile Ser Thr Gly Ile Ala Asp Thr Ala
 115 120 125
 Tyr Phe Gly Ala Glu Ala Glu Phe Tyr Ile Phe Asp Ser Val Ser Phe
 130 135 140
 Asp Ser Arg Ala Asn Gly Ser Phe Tyr Glu Val Asp Ala Ile Ser Gly
 145 150 155 160
 Trp Trp Asn Thr Gly Ala Ala Thr Glu Ala Asp Gly Ser Pro Asn Arg
 165 170 175
 Gly Tyr Lys Val Arg His Lys Gly Gly Tyr Phe Pro Val Ala Pro Asn
 180 185 190
 Asp Gln Tyr Val Asp Leu Arg Asp Lys Met Leu Thr Asn Leu Ile Asn
 195 200 205
 Ser Gly Phe Ile Leu Glu Lys Gly His His Glu Val Gly Ser Gly Gly
 210 215 220
 Gln Ala Glu Ile Asn Tyr Gln Phe Asn Ser Leu Leu His Ala Ala Asp
 225 230 235 240
 Asp Met Gln Leu Tyr Lys Tyr Ile Ile Lys Asn Thr Ala Trp Gln Asn
 245 250 255
 Gly Lys Thr Val Thr Phe Met Pro Lys Pro Leu Phe Gly Asp Asn Gly
 260 265 270
 Ser Gly Met His Cys His Gln Ser Leu Trp Lys Asp Gly Ala Pro Leu
 275 280 285
 Met Tyr Asp Glu Thr Gly Tyr Ala Gly Leu Ser Asp Thr Ala Arg His
 290 295 300

Tyr Ile Gly Gly Leu Leu His His Ala Pro Ser Leu Leu Ala Phe Thr
 305 310 315 320
 Asn Pro Thr Val Asn Ser Tyr Lys Arg Leu Val Pro Gly Tyr Glu Ala
 325 330 335
 Pro Ile Asn Leu Val Tyr Ser Gln Arg Asn Arg Ser Ala Cys Val Arg
 340 345 350
 Ile Pro Ile Thr Gly Ser Asn Pro Lys Ala Lys Arg Leu Glu Phe Arg
 355 360 365
 Ser Pro Asp Ser Ser Gly Asn Pro Tyr Leu Ala Phe Ser Ala Met Leu
 370 375 380
 Met Ala Gly Leu Asp Gly Ile Lys Asn Lys Ile Glu Pro Gln Ala Pro
 385 390 395 400
 Val Asp Lys Asp Leu Tyr Glu Leu Pro Pro Glu Glu Ala Ala Ser Ile
 405 410 415
 Pro Gln Thr Pro Thr Gln Leu Ser Asp Val Ile Asp Arg Leu Glu Ala
 420 425 430
 Asp His Glu Tyr Leu Thr Glu Gly Gly Val Phe Thr Asn Asp Leu Ile
 435 440 445
 Glu Thr Trp Ile Ser Phe Lys Arg Glu Asn Glu Ile Glu Pro Val Asn
 450 455 460
 Ile Arg Pro His Pro Tyr Glu Phe Ala Leu Tyr Tyr Asp Val
 465 470 475

<210> 165

<211> 228

<212> PRT

<213> Mycobacterium tuberculosis

<400> 165

Val Arg Ile Lys Ile Phe Met Leu Val Thr Ala Val Val Leu Leu Cys
 1 5 10 15
 Cys Ser Gly Val Ala Thr Ala Ala Pro Lys Thr Tyr Cys Glu Leu
 20 25 30
 Lys Gly Thr Asp Thr Gly Gln Ala Cys Gln Ile Gln Met Ser Asp Pro
 35 40 45
 Ala Tyr Asn Ile Asn Ile Ser Leu Pro Ser Tyr Tyr Pro Asp Gln Lys
 50 55 60

Ser Leu Glu Asn Tyr Ile Ala Gln Thr Arg Asp Lys Phe Leu Ser Ala
 65 70 75 80
 Ala Thr Ser Ser Thr Pro Arg Glu Ala Pro Tyr Glu Leu Asn Ile Thr
 85 90 95
 Ser Ala Thr Tyr Gln Ser Ala Ile Pro Pro Arg Gly Thr Gln Ala Val
 100 105 110
 Val Leu Lys Val Tyr Gln Asn Ala Gly Gly Thr His Pro Thr Thr Thr
 115 120 125
 Tyr Lys Ala Phe Asp Trp Asp Gln Ala Tyr Arg Lys Pro Ile Thr Tyr
 130 135 140
 Asp Thr Leu Trp Gln Ala Asp Thr Asp Pro Leu Pro Val Val Phe Pro
 145 150 155 160
 Ile Val Gln Gly Glu Leu Ser Lys Gln Thr Gly Gln Gln Val Ser Ile
 165 170 175
 Ala Pro Asn Ala Gly Leu Asp Pro Val Asn Tyr Gln Asn Phe Ala Val
 180 185 190
 Thr Asn Asp Gly Val Ile Phe Phe Phe Asn Pro Gly Glu Leu Leu Pro
 195 200 205
 Glu Ala Ala Gly Pro Thr Gln Val Leu Val Pro Arg Ser Ala Ile Asp
 210 215 220
 Ser Met Leu Ala
 225

<210> 166

<211> 299

<212> PRT

<213> Mycobacterium tuberculosis

<400> 166

Met Lys Gly Arg Ser Ala Leu Leu Arg Ala Leu Trp Ile Ala Ala Leu
 1 5 10 15
 Ser Phe Gly Leu Gly Gly Val Ala Val Ala Ala Glu Pro Thr Ala Lys
 20 25 30
 Ala Ala Pro Tyr Glu Asn Leu Met Val Pro Ser Pro Ser Met Gly Arg
 35 40 45
 Asp Ile Pro Val Ala Phe Leu Ala Gly Gly Pro His Ala Val Tyr Leu
 50 55 60

Leu Asp Ala Phe Asn Ala Gly Pro Asp Val Ser Asn Trp Val Thr Ala
 65 70 75 80
 Gly Asn Ala Met Asn Thr Leu Ala Gly Lys Gly Ile Ser Val Val Ala
 85 90 95
 Pro Ala Gly Gly Ala Tyr Ser Met Tyr Thr Asn Trp Glu Gln Asp Gly
 100 105 110
 Ser Lys Gln Trp Asp Thr Phe Leu Ser Ala Glu Leu Pro Asp Trp Leu
 115 120 125
 Ala Ala Asn Arg Gly Leu Ala Pro Gly Gly His Ala Ala Val Gly Ala
 130 135 140
 Ala Gln Gly Gly Tyr Gly Ala Met Ala Leu Ala Ala Phe His Pro Asp
 145 150 155 160
 Arg Phe Gly Phe Ala Gly Ser Met Ser Gly Phe Leu Tyr Pro Ser Asn
 165 170 175
 Thr Thr Thr Asn Gly Ala Ile Ala Ala Gly Met Gln Gln Phe Gly Gly
 180 185 190
 Val Asp Thr Asn Gly Met Trp Gly Ala Pro Gln Leu Gly Arg Trp Lys
 195 200 205
 Trp His Asp Pro Trp Val His Ala Ser Leu Leu Ala Gln Asn Asn Thr
 210 215 220
 Arg Val Trp Val Trp Ser Pro Thr Asn Pro Gly Ala Ser Asp Pro Ala
 225 230 235 240
 Ala Met Ile Gly Gln Ala Ala Glu Ala Met Gly Asn Ser Arg Met Phe
 245 250 255
 Tyr Asn Gln Tyr Arg Ser Val Gly Gly His Asn Gly His Phe Asp Phe
 260 265 270
 Pro Ala Ser Gly Asp Asn Gly Trp Gly Ser Trp Ala Pro Gln Leu Gly
 275 280 285
 Ala Met Ser Gly Asp Ile Val Gly Ala Ile Arg
 290 295

<210> 167

<211> 7

<212> PRT

<213> Mycobacterium tuberculosis

<400> 167

Phe Ser Arg Pro Gly Leu Pro
1 5